AMENDMENTS TO THE CLAIMS

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1. (Currently Amended) A system for combining spatial and linear ~~(attribute)~~ data in a single relational database, comprising:

a computing device having a user interface;

a relational database connected to the computing device and accessible by structured query language, the database comprising spatial and attribute data related to geographic information; and

means for providing dynamic segmentation of permanent anchor sections, an anchor section defining a spatial reference for a geographic element in the relational database.

2. (Originally Presented) A system as recited in claim 1, wherein the relational database is accessed via an object-oriented front-end.

3. (Originally Presented) A system as recited in claim 1, wherein the relational database further comprises:

integrated temporal data for maintaining historical records.

4. (Originally Presented) The system as recited in claim 1, wherein the relational database is also accessible by a graphical information system viewing application.

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5. (Originally Presented) A system as recited in claim 1, further comprising means for performing automated database maintenance, making the multiple databases of road network data consistent with one another.

6. (Originally Presented) A system as recited in claim 1, further comprising:

at least one additional computing device connected to the relational database, wherein the relational database is stored in a distributed data environment.

7. (Currently Amended) A method for combining spatial and linear ~~(attribute)~~ data in a single relational database, comprising:

providing permanent anchor sections representing physical sections of a roadway, an anchor section defining a spatial reference in road data, the anchor sections also integrated with linear data to form a road network;

associating attributes and linear events with positions in the road network;

storing linear event data related to anchor sections in a relational table;

storing road attribute data by associating each attribute with locations specified in terms of a linear referencing method (LRM);

implementing a dynamic segmentation function for conducting dynamic segmentation on a selective basis;

maintaining historical data related to anchor sections and linear event data;

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enabling the creation of an interior intersection within the road data, where an interior intersection to an anchor section is defined by offsets from an end of the anchor section;

synchronizing spatial and linear data, for tying spatial data to a physical location represented by the road network; and

utilizing meta-data definitions for database elements in a data dictionary, the data dictionary defining an implementation of the relational database, resulting in an extensible relational database model.

8. (Originally Presented) A method as recited in claim 7, further comprising:

dynamically segmenting permanent anchor sections by adding interior intersections using offset information.

9. (Originally Presented) A method as recited in claim 7, wherein the database model uses an open architecture.

10. (Originally Presented) A method as recited in claim 7, wherein linear event data is stored by storing each value anchored linear event combination in a separate table record.

11. (Originally Presented) A method as recited in claim 7, wherein linear event data is stored by storing each value anchored linear event combination in a different table

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record with the same anchored linear events used for all event data, resulting in dynamic segmentation.

12. (Originally Presented) A method as recited in claim 7, wherein the linear event data comprises an event value; and an anchored linear event related to at least one anchor section, the anchored linear event identifying start and end offsets of an anchor section.

13. (Originally Presented) A method as recited in 12, wherein jurisdictional areas are maintained as spatial data, the method further comprising:

storing jurisdictional area polygons in the database;

accessing event data for a jurisdictional area using a spatial query;

identifying anchor sections contained within a specified jurisdictional area; and

compiling event data for the identified anchor sections using a relational query.

14. (Originally Presented) A method as recited in claim 13, further comprising:

summarizing anchor section event data using a summary query.

15. (Originally Presented) A method as recited in claim 13, further comprising:

summarizing anchor section event data using a report query.

16. (Originally Presented) A method as recited in claim 13, further comprising:

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pre-processing spatial queries for desired jurisdictional areas; and

storing results of the pre-processed spatial queries for desired jurisdictional areas in a location accessible by a query program, resulting in more efficient access to event tables stored by the pre-processing queries.

17. (Originally Presented) A method as recited in claim 7, further comprising:

importing road network data in the form of a link-node network by adding additional table columns required to maintain consistency of the link node network with a spatial data engine for the road network data, the adding further comprising:

creating an entry in an anchor section table for each link in the imported road network link table;

assigning an anchor section identifier (ID) to the entry;

copying associated spatial data from the imported data into the spatial data engine road network data; and

copying other data associated with the link to define the road network.

18. (Originally Presented) A method as recited in claim 7, further comprising:

presenting data as tabular query results and reports.

19. (Originally Presented) A method as recited in claim 7, further comprising:

using standard geographic information system (GIS) tools to produce maps using data in the road network.

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20. (Originally Presented) A method as recited in claim 7, further comprising:

locking data for a desired periods of time while new data is collected.

21. (Originally Presented) A method as recited in claim 7, further comprising:

querying data in the road network by a combination of spatial and linear attributes.

22. (Originally Presented) A method as recited in claim 21, wherein the querying further comprises:

using one of a spatial query based on a temporary area defined via a map interface or a relational query based on jurisdictional areas; and

filtering results of the query based on event data associated with anchor sections in an area of interest as defined by the query.

23. (Originally Presented) A method as recited in claim 21, further comprising:

summarizing event values for the associated anchor sections.

24. (Originally Presented) A method as recited in claim 21, further comprising:

mapping the associated anchor sections.

25. (Originally Presented) A method as recited in claim 21, wherein the querying launches at least one distributed application to retrieve data from a distributed network of databases.

26. (Originally Presented) A method as recited in claim 21, further comprising:

presenting results of the querying in a simple tabular display.

27. (Originally Presented) A method as recited in claim 7, further comprising:

converting location reference data stored by a traditional linear referencing method to an anchor linear referencing method as a collection of anchor sections and intersections that represent the roadways, the converted data for use with the road network comprised of anchor sections integrated with linear data.

28-34. (Cancelled).